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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,053	03/14/2002	Kenichi Miyoshi	19289.02146	6679

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EXAMINER	
NGUYEN, THUAN T	

ART UNIT	PAPER NUMBER
2685	

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/088,053	MIYOSHI ET AL.	
	Examiner	Art Unit	
	THUAN T. NGUYEN	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 March 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *attached*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I of claims 1-7 and 10-11 in the reply filed on 8/16/04 is acknowledged. The traversal is on the ground(s) that the search would not be a serious burden to the Examiner. This is found persuasive because after reviewing claims 8-9 again, the Examiner agrees that a base station contains the same limitations as cited in claims 1-7; therefore, the Examiner removes the election/restriction as noted in the previous action and now examines all of the claims 1-11 as disclosed below.

Claim Rejections - 35 USC 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> *A person shall be entitled to a patent unless --*
>
> *(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.*

3. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozukturk et al. (US patent 6,049,535/ refer to "Ozu" for short).

Regarding claim 1, Ozu discloses "a radio receiving apparatus comprising a first estimator that obtains a first channel estimation value of a known signal portion of a received signal; a second estimator that obtains a second channel estimation value of a data portion of the received signal", i.e., Figure 1 describes an overall view of a mobile communication system for

subscriber units 111 & 112 …regarding as radio receiving apparatuses for communicating to RCSs 1…n of BS 101 via a plurality of communication channels (col. 13/lines 4-65), and received signals at the radio receiving units or devices are being estimated as shown in Figure 6 with an estimate channel response 604 based on pilot code generator 608 and tracking 607 for tracking data and known signal portions of received signals as FSU 111 receives data from Data 172 (see col. 14/lines 19-67 & col. 15/lines 1-33 for traffic and control channels; and col. 33/lines 15-60 for description of Figure 6);

a weighting system that weights the second channel estimation value according to reliability of a temporary decision value of the data portion (col. 33/lines 42-60 for channel response estimation, and col. 33/line 60 to col. 34/line 28 for using pilot signals as temporary values, weighting and tracking technique); and

a compensator that compensates for channel variations of the data portion using a third channel estimation value obtained by combining the weighted second channel estimation value and the first channel estimation value (Fig. 6/item 603 for channel response correction and adder 605 for modifying and adjusting the weighting processes earlier by combining the acquisition and tracking for estimate channel response 604 as a correction loop based on the result of the estimation and weighting processes, refer again to col. 33/line 42 to col. 34/line 28).

As for claim 2, Ozu further discloses "wherein said weighting system weights the second channel estimation value by a value, which becomes larger as likelihood of the temporary decision value becomes higher, and weights the second channel estimation value by a value, which becomes smaller as likelihood of the temporary decision value becomes lower" (col. 31/lines 20-39 as the output estimate value of weights is proportional to the early multipath

signals, which referred to the received input values, meaning the weight of the estimation is larger same as the temp value or vice versa).

Regarding claim 3, Ozu discloses "a radio receiving apparatus comprising: a first estimator that obtains a first channel estimation value of a known signal portion of a received signal; a second estimator that obtains a second channel estimation value of a data portion of received signal; a deciding system that decides whether reliability of a temporary decision value of the data portion high; a selector that selects only the second channel estimation value corresponding to the temporary decision value with higher reliability; and a compensator that compensates for channel variations of the data portion using a third channel estimation value obtained by combining the selected second channel estimation value and the first channel estimation value" (see claim 1, with a deciding system is the channel response correction 603 as discussed above; and the acquisition decision means 606 decides or selects which one is the desired code phase, see col. 33/lines 42-60).

As for claim 4, Ozu discloses "wherein said deciding system decides that reliability of the temporary decision value is high when a signal point of the temporary decision value belongs to a predetermined area on an I-Q plane" (see col. 6/lines 10-30 for I-Q addressed; and Fig. 22 for quadrature demodulation on I-Q plane).

As for claim 5, Ozu further discloses "comprising an error correcting system that performs an error correction to the data portion of the received data, wherein said deciding system decides that the reliability of the temporary decision value is high when the temporary decision value matches an error-corrected value" (col. 7/lines 7-37 for error signals in forward and reverse direction are estimated; and col. 33/lines 42-60 for error correcting techique).

As for claims 6-7, 8-9, and 10-11, these claims, for a communication terminal apparatus and its corresponding method and a base station apparatus having a radio receiving apparatus as called for earlier, are rejected for the reasons given in the scope of claims 1-5 as discussed in details above, not limited to the cited paragraphs but also to the entire reference of Ozukturk.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Lomp et al, Dent, Ozluturk et al. (in PTO 892 attached) disclose communication systems related to calculating weights and using pilot signals.

5. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306, (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II,

2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (571) 272-7895. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TONY T. NGUYEN
PATENT EXAMINER

Tony T. Nguyen
Art Unit 2685
March 29, 2005